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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,204	09/18/2001	Richard Malcolm Kelso	P21154	6189

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13  
EXAMINER

SORKIN, DAVID L

ART UNIT	PAPER NUMBER
	1723

DATE MAILED: 08/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Offic Action Summary</b>	Application No.	Applicant(s)
	09/857,204	KELSO ET AL.
Examiner	Art Unit	
David L. Sorkin	1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) Responsive to communication(s) filed on 04 June 2003.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-9 and 20-37 is/are rejected.
- 7) Claim(s) 10-19 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on 04 June 2003 is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

***Drawings***

1. The proposed drawing changes filed on 04 June 2003 have been approved.

Corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

***Specification***

2. In line 4 of the current version of the paragraph which original began on page 10, line 28, "ration" should read - - ratio - -.

***Claim Objections***

3. Applicant is advised that should claim 22 be found allowable, claim 23 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k). Because claim 22 requires "said first fluid inlet is spaced toward said bluff body from said opposite end of the chamber" it is considered that dependent claim 23 is necessarily satisfied, if parent claim 22 is satisfied.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 20-23 and 25-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Patterson et al. (US 384,068). Regarding claim 1, Patterson ('068) discloses a fluid mixing device including a chamber, a bluff body (H) defining one end of the chamber, a first fluid inlet (D) disposed toward an opposite end of the chamber from said bluff body and arranged to direct fluid toward said bluff body (see Fig. 1; for a version of Fig. 1 marked-up by the examiner, see the Response to Arguments section below), a region substantially surrounding said bluff body including a flow divider (G,C,C') defining at least one second fluid inlet (defined between G and A) and at least one mixed fluid outlet (between H and G). While claim 1 additionally includes some discussion of what the claimed device is intended to do to a fluid intended to be used in the device, "apparatus claims cover what a device *is*, not what a device *does*" (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, "[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim" *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Regarding claim 20, the flow divider protrudes beyond said bluff body (see Fig. 1). Regarding claim 21, the flow divider extends into said chamber (see Fig. 1). Regarding claim 22, said first fluid inlet is spaced toward said bluff body from said opposite end of the chamber (see Fig. 1). Regarding claim 23, device of Patterson ('068) necessarily meets the limitation of claim 23 because the inlet is between the bluff body and the opposite end of the chamber. Regarding claim 25, said chamber is formed by a generally cup-shaped body with said bluff body disposed at or adjacent an

open end (see Fig. 1). Regarding claim 26, said first fluid inlet is centrally disposed in the base of said cup (see Fig. 1). Regarding claim 27, said flow divider extends between the wall of said cup adjacent the open end and said bluff body (see Fig. 1). Regarding claim 28, the flow divider is fixed to the wall of said cup (see Fig. 1). Regarding claim 29, the mixing device is a burner (see title). Regarding claims 30-32, while, “[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim” *Ex parte Thibault*, supra., the reference discusses the first inlet supplying combustible, hydrocarbon fuel (see page 1, lines 15-20) and the second inlets supplying air (see page 1 lines 58-61; Fig. 1). Regarding claim 33, Patterson ('068) discloses a fluid mixing device including a chamber, a bluff body (H) defining one end of the chamber, a first fluid inlet (D) disposed toward an opposite end of the chamber from said bluff body and arranged to direct a first fluid toward said bluff body (see Fig. 1; for a version of Fig. 1 marked-up by the examiner, see the Response to Arguments section below), a region substantially surrounding said bluff body including a flow divider (G,C,C') defining at least one second fluid inlet (defined between G and A) configured to provide a second fluid to said chamber and at least one mixed fluid outlet (between H and G) configured to emit a mixture of said first fluid and said second fluid from said chamber while at least one second fluid inlet provides a second fluid to said chamber. While claim 33 includes some additional discussion of what the claimed device is intended to do to a fluid intended to be used in the device, “apparatus claims cover what a device *is*, not what a device *does*” (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* supra.

Also, “[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim” *Ex parte Thibault*, supra. Regarding claim 34, Patterson (‘068) discloses a fluid mixing device including a chamber, a bluff body (H) defining one end of the chamber, a first fluid inlet (D) disposed toward an opposite end of the chamber from said bluff body that directs a first fluid toward said bluff body (see Fig. 1; for a version of Fig. 1 marked-up by the examiner, see the Response to Arguments section below), a region substantially surrounding said bluff body including a flow divider (G,C,C') defining at least one second fluid inlet (defined between G and A) that provides a second fluid to said chamber and at least one mixed fluid outlet (between H and G) that emits a mixed fluid. While claim 34 includes some additional discussion of what the claimed device is intended to do to a fluid intended to be used in the device, “apparatus claims cover what a device *is*, not what a device *does*” (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* supra. Also, “[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim” *Ex parte Thibault*, supra. Regarding claim 35-37, while “the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself” *In re Casey* 152 USPQ 235 (CCPA 1967), the reference uses arrows in Fig. 1 to depict that a direction of fluid entry to said chamber from said first fluid inlet is substantially opposite a direction of fluid entry to said chamber from said at least one second fluid inlet.

6. Claims 1-9 and 20-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Ryschkewitsch (US 2,044,511). Regarding claim 1, Ryschkewitsch ('511) discloses a fluid mixing device (see especially the embodiment of Figs. 3 and 4, but also that of Figs. 1 and 2) including a chamber, a bluff body (including a center annulus, 17 in Fig. 3; 8' and/or 8 in Fig. 1) defining one end of the chamber, a first fluid inlet (2) disposed toward an opposite end of the chamber from said bluff body and arranged to direct fluid toward said bluff body, a region substantially surrounding said bluff body including a flow divider (including another, more radially outward annulus 17 and radial ribs 18 in Figs. 3 and 4; 7 in Fig. 1) defining at least one second fluid inlet and at least one mixed fluid outlet (see Figs.). While claim 1 additionally includes some discussion of what the claimed device is intended to do to a fluid intended to be used in the device, "apparatus claims cover what a device *is*, not what a device *does*" (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, "[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim" *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Regarding claims 2-7, the bluff body had egress means including a central, circular aperture (see Figs. 3 and 4) and is therefore porous to fluid. Regarding claim 6, the first fluid inlet is directed substantially toward the central aperture (see Fig. 3). Regarding claim 8, said flow divider defines a series of flow channels which form said second fluid inlets and said mixed fluid outlets (see Figs. 3 and 4). Regarding claim 9, alternate ones of said flow channels spaced around said bluff body respectively form said second fluid inlets and said mixed fluid

outlets (see Figs. 3 and 4). Regarding claim 20, the flow divider protrudes beyond said bluff body (see Figs. 3 and 4). Regarding claim 21, the flow divider extends into said chamber (see Fig. 3). Regarding claim 22, said first fluid inlet is spaced toward said bluff body from said opposite end of the chamber (see Fig. 3). Regarding claim 23, device of Ryschkewitsch ('511) necessarily meets the limitation of claim 23 because the inlet is between the bluff body and the opposite end of the chamber. Regarding claim 24,  $h/L$  is about 0.4 (see Fig. 3). Regarding claim 25, said chamber is formed by a generally cup-shaped body with said bluff body disposed at or adjacent an open end (see Fig. 3). Regarding claim 26, said first fluid inlet is centrally disposed in the base of said cup (see Fig. 3). Regarding claim 27, said flow divider extends between the wall of said cup adjacent the open end and said bluff body (see Figs. 3 and 4). Regarding claim 28, the flow divider is fixed to the wall of said cup (see Figs. 3 and 4). Regarding claim 29, the mixing device is a burner (see title). Regarding claims 30-32, "[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim" *Ex parte Thibault*, supra. Regarding claim 33, Ryschkewitsch ('511) discloses a fluid mixing device (see especially the embodiment of Figs. 3 and 4, but also that of Figs. 1 and 2) including a chamber, a bluff body (including a center annulus, 17 in Fig. 3; 8' and/or 8 in Fig. 1) defining one end of the chamber, a first fluid inlet (2) disposed toward an opposite end of the chamber from said bluff body and arranged to direct a first fluid toward said bluff body, a region substantially surrounding said bluff body including a flow divider (including another, more radially outward annulus 17 and radial ribs 18 in

Figs. 3 and 4; 7 in Fig. 1) defining at least one second fluid inlet configured to provide a second fluid to said chamber and at least one mixed fluid outlet (see Figs.) configured to emit a mixture of said first fluid and said second fluid from said chamber while said at least one second fluid inlet provides a second fluid to said chamber. While claim 33 includes some additional discussion of what the claimed device is intended to do to a fluid intended to be used in the device, "apparatus claims cover what a device *is*, not what a device *does*" (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, "[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim" *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Regarding claim 34, Ryschkewitsch ('511) discloses a fluid mixing device (see especially the embodiment of Figs. 3 and 4, but also that of Figs. 1 and 2) including a chamber, a bluff body (including a center annulus, 17 in Fig. 3; 8' and/or 8 in Fig. 1) defining one end of the chamber, a first fluid inlet (2) disposed toward an opposite end of the chamber from said bluff body that directs a first fluid toward said bluff body, a region substantially surrounding said bluff body including a flow divider (including another, more radially outward annulus 17 and radial ribs 18 in Figs. 3 and 4; 7 in Fig. 1) defining at least one second fluid inlet to said chamber that provides a second fluid and at least one mixed fluid outlet (see Figs.) from said chamber that emits a mixed fluid. While claim 34 includes some additional discussion of what the claimed device is intended to do to a fluid intended to be used in the device, "apparatus claims cover what a device *is*, not what a device *does*" (emphasis in original) *Hewlett Packard Co. v.*

*Bausch & Lomb Inc.* 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). Also, “[e]xpressions relating the apparatus to contents thereof during an intended operation are of no significance in determining the patentability of the apparatus claim” *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Regarding claims 35-37, the apparatus of Ryschkewitsch ('511) is capable of being used in the manner discussed in claim 35, for example with fuel gas entering the first inlet (2) and air entering in an opposite direction from said at least one second fluid inlet (for example an orifice defined between the outermost ring 17 and the side wall of the chamber).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Patterson et al. (US 384,068). Though numerical values are not discussed by the reference, as depicted in Fig. 1, the h/L ratio is approximately 0.6. It is considered that it would have been obvious to one of ordinary skill in the art to have optimized the spacing of the inlet and/or bluff body, to create a particular air flow. See page 1, lines 65-90 for a discussion of spacings and air flow.

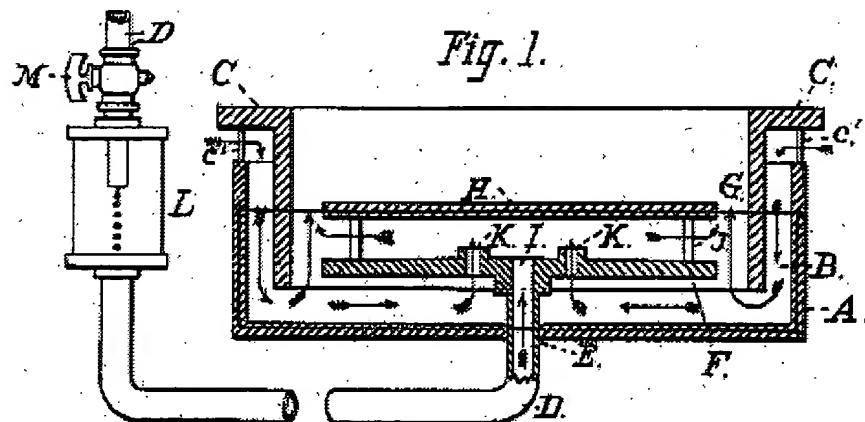
***Allowable Subject Matter***

9. Claims 10-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims. The closest prior art references are Patterson ('068) and Ryschkewitsch ('511); however, the dividers of these references cannot be properly considered to have a corrugated profile. The prior art fails to fairly teach or suggest a divider having a corrugated profile, in combination with the remaining limitations of claim 10, from which claims 11-19 depend.

***Response to Arguments***

10. Applicant's arguments, including those under the unusual heading "MAGIC PARAGRAPH", have been carefully considered by the examiner.
11. Regarding rejections based upon the reference Patterson ('068), applicant apparently desires that only the space between plates "H" and "F" of the reference be considered a chamber. While the examiner agrees that the spaced defined by these plates is a chamber, a device is not limited to having a single chamber. Chambers may be within other chambers. A chamber may be divided into plural sub-chambers. It is noted that the instant specification contemplates a divider being in the "chamber" (see page 7, lines 8 and 9 and claim 21). Therefore, the space including that between plate "H" and the bottom wall of "A" (having hole "E" through which "D" extends) may also be properly consider a chamber, even though it is may also be considered divided into one or more sub-chambers such as the space between "H" and "F". An example of what may be considered a chamber of Patterson ('068) in accordance with the rejection of claim 1, is illustrated below:



It is clear that considering that which is marked in red above to be a "chamber" is completely consistent with the usage of the word "chamber" in the instant specification. Compare the above to, for example, instant Figs. 4 and 9(a)-(c). Applicant states "if the Official Action is asserting that the 'chamber' is defined by F, G and H"; however, as illustrated above, "G" is a divider within what is considered "the chamber". As explained in this and the previous office action, the mixed fluid outlet is considered to be between "H" and "G". This is consistent with the intended use depicted by Patterson ('068) using arrows in Fig. 1 of the reference.

12. Regarding rejections based upon Ryschkewitsch ('511), applicant discusses what may or may not properly be considered an inlet and outlet. Applicant states that "there is no basis to believe that the operation of the 'internal components' 17 of the device shown in Figures 3 and 4 of RYSCHKEWITSCH would both be an 'inlet' and 'outlet' at the same time (e.g., in a single apparatus operating in the manner disclosed by RYSCHKEWITSCH)". However, the examiner disagrees with this statement for at least the following, reasons:

a. Even hypothetically if at least two different orifices defined by 17 and 18 of the reference were not used as an inlet and an outlet simultaneously when "operating in the manner disclosed by RYSCHEWITSCH", the claim is no less anticipated. The intended use mentioned in the instant claims need not correspond to the intended use of the reference for the claims to be anticipated. For example, in *Northam Warren Corp. v. D. F. Newfield Co.* 22 USPQ 313, a patent to a device for cleaning fingernails was held invalid because a prior art pencil for writing had the same structure, even though the prior art pencil was not intended to be used for cleaning fingernails. As held in *In re Casey* 152 USPQ 235, "the manner or method in which such machine is to be utilized is not germane to the patentability of the machine itself".

b. There is good reason to believe that the orifices defined by 17 and 18 do function as inlets and outlets simultaneously even in the intended use of Ryschkewitsch ('511). In the intended use of Ryschkewitsch ('511), 2 and 3 are both inlets, so clearly at least one of orifices defined by 17 and 18 must be an outlet. By analogy to the embodiment of Fig. 1, there is good reason to believe that central orifices would be outlets according to the intended operation, while radial outward orifices would be inlets.

Applicant states "there is no reason to suggest that the indistinguishable passages between 'internal components' of RYSCHKEWITSCH discloses or suggest both an 'inlet' separate from an 'outlet' ". However:

- a. The passages are not "indistinguishable". Some are more radially inward than others.
- b. Consider an ordinary soda straw. Both ends are the same (indistinguishable), yet one end may be an inlet and the other an outlet in use. If a reference merely disclosed a hollow soda straw having openings at each end, for stirring a beverage, and made no mention of the openings functioning as inlet and outlet, would a claim to a soda straw having an inlet and outlet be any less anticipated by the reference?

Nowhere has the examiner considered that the same opening is "an inlet and outlet". To the contrary the examiner has indicated separate and distinct openings as being capable of functioning as inlet and outlet. The examiner has properly considered all functional limitations (such as the function aspects of the definitions of "inlet" and "outlet") for any structure they imply. Applicant is advised that "where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristics relied on" *In re Fitzgerald*, 205 USPQ 594 (CCPA 1980).

13. While the examiner certainly agrees that the meaning of the word "inlet" is essentially the opposite of the meaning of the word "outlet", they are only opposite in function, and may be identical in structure. For example, the inlet and outlet of an ordinary soda straw are structurally identical.

14. Applicant states "claim 34 recites functionality that affirmatively occurs, i.e., is not merely 'intended' ". However, the examiner considers that nothing "affirmatively occurs" in any product, machine, or composition claim, and that any function mentioned therein is always merely intended. "[A]pparatus claims cover what a device *is*, not what a device *does*" (emphasis in original) *Hewlett Packard Co. v. Bausch & Lomb Inc.* supra. Furthermore, if any claim which otherwise would be an apparatus claim, does recite a function which "affirmatively occurs", it does not comply with section 101 or 112, second paragraph. See *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990).

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David L. Sorkin whose telephone number is 703-308-1121. The examiner can normally be reached on 8:00 -5:30 Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on 703-308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



David Sorkin

August 8, 2003



CHARLES E. COOLEY  
PRIMARY EXAMINER